

IN THE CLAIMS:

The following is a complete listing of the claims, reflects all the changes currently being made to the claims, and replaces all earlier versions and listings.

1. (previously presented): A color image forming apparatus comprising:
an image forming unit which forms a color image on a recording material;
a color measuring unit which optically measures each of colors of a plurality of patch images formed on a recording material by said image forming unit, by detecting each of reflected lights from the plurality of patch images;
a measuring condition controller which variably sets a measuring condition of said color measuring unit in accordance with a patch image to be measured; and
a forming condition controller which controls an image forming condition on a basis of a measuring result of said color measuring unit.

2. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit illuminates the plurality of patch image when said color measuring unit measures each of colors of a plurality of patch images, and the measuring condition is an amount of light of the light source.

3. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit has an accumulation sensor which accumulates a reflected light from the plurality of patch image, and the measuring condition is an accumulation time of the accumulation sensor.

4. (currently amended): A color image forming apparatus according to Claim [[1]] 3, wherein said image forming unit varies lengths of the plurality of patch images along a conveyance direction in accordance with the accumulation time.

5. (previously presented): A color image forming apparatus according to Claim 2, wherein an amount of light of the light source as the measuring condition is variable so as to be decreased as a predicted reflectance becomes greater and to be increased as a predicted reflectance becomes smaller.

6. (previously presented): A color image forming apparatus according to Claim 3, wherein the accumulation time as the measuring condition is variable so as to be decreased as a predicted reflectance becomes greater, and to be increased as a predicted reflectance becomes smaller.

7. (previously presented): A color image forming apparatus according to Claim 4, wherein the length of the patch image varied along the conveyance direction as the measuring condition is shortened as a predicted reflectance becomes greater, and is lengthened as a predicted reflectance becomes smaller.

8. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit is provided with a light source having a spectrum over an entire visible light and a sensor having pixels provided with three or more filters having a spectral characteristic.

9. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit is provided with three or more light sources having difference spectra and one or more sensors.

10. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit is provided with a light source having a spectrum over an entire visible light and a sensor having means for separating the reflected light from the images and a plurality of pixels for measuring the intensity of the separated lights.

11. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit is provided with three or more light sources having different spectra, and one or more sensors, and when said light sources are turned on one by one and reflected lights corresponding to the respective light sources are detected by the sensor or sensors, the amount of light of each light source is varied in conformity with a predicted spectral reflectance.

12. (previously presented): A color image forming apparatus according to Claim 1, wherein said measuring condition controller, when it sets the measuring condition, effects the setting of the measuring condition in conformity with an actually measured reflectance of the images.

13. (currently amended): A color measurement controlling method for forming a color image on a recording material, comprising:

an image forming step, of forming a plurality of a color image on a recording material;

a setting step, of variably setting a measuring condition of said color measuring step in accordance with a patch image to be measured;

a color measuring step, of optically measuring each of colors of a plurality of patch images formed on a recording material in said image forming step, by detecting each of reflected lights from the plurality of patch images; and

a controlling step, of controlling an image forming condition on a basis of a measuring result in said color measuring step.

14. (previously presented): A color measurement controlling method according to Claim 13, wherein the plurality of patch images are illuminated when each of colors of a plurality of patch images is measured in said color measuring step, and the measuring condition is an amount of light of the light source.

15. (previously presented): A color measurement controlling method according to Claim 13, wherein in said color measuring step, an accumulation sensor is used for accumulating of a reflected light from the plurality of patch image, and the measuring condition is an accumulation time of the accumulation sensor

16. (previously presented): A color measurement controlling method according to Claim 13, wherein in said image forming step, lengths of the plurality of patch images are varied along a conveyance direction in accordance with the accumulation time.

17. (previously presented): A color measurement controlling method according to Claim 14, wherein an amount of light of the light source as the measuring condition is variable so as to be decreased as a predicted reflectance becomes greater and to be increased as a predicted reflectance becomes smaller.

18. (previously presented): A color measurement controlling method according to Claim 15, wherein the accumulation time as the measuring condition is variable so as to be decreased as a predicted reflectance becomes greater, and to be increased as a predicted reflectance becomes smaller.

19. (previously presented): A color measurement controlling method according to Claim 16, wherein the length of the patch image varied along the conveyance direction as the measuring condition is shortened as a predicted reflectance becomes greater, and is lengthened as a predicted reflectance becomes smaller.

20. (previously presented): A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by a light source having a spectrum over

an entire visible light and a sensor having pixels provided with three or more filters having a spectral characteristic.

21. (previously presented): A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by three or more light sources having different spectra, and one or more sensors.

22. (previously presented): A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by a light source having a spectrum over an entire visible light and a sensor having means for separating the reflected light from the images and a plurality of pixels for measuring the intensities of the separated lights.

23. (previously presented): A color measurement controlling method according to Claim 13, wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed by three or more light sources having different spectra and one or more sensors, and said color measuring step includes a step of turning on the light sources one by one and changing the amount of light of each light source in conformity with the predicted spectral reflectance when the reflected lights corresponding to the respective light sources are detected by the sensor or sensors.

24. (previously presented): A color measurement controlling method according to Claim 13, wherein in case of the setting of the detecting condition in said setting step, the setting of the measuring condition is effected in conformity with an actually measured reflectance of the images.

25. (previously presented): A color image forming apparatus according to Claim 1, wherein said color image forming apparatus further comprises a fixing unit that effects fixation an image on a recording material formed by said image forming unit, and said color measuring unit measures executes said each of colors of a plurality of patch images after the fixation.

26. (previously presented): A color image forming apparatus according to Claim 1, wherein said color measuring unit has a converter that converts an analog output signal of an optical sensor to a digital signal.

27. (previously presented): A color image forming apparatus according to Claim 1, wherein the patch image is made of mixed colors.

28. (previously presented): A color image forming method according to Claim 13, further comprising a fixing step, of fixing an image on a recording material formed in said image forming step, and wherein in said color measuring step, the optically measuring each of colors of a plurality of patch images is executed after said fixing step.

29. (previously presented): A color image forming method according to Claim 13, wherein said color measuring step includes a step of converting an analog output signal of an optical sensor to a digital signal.

30. (previously presented): A color image forming method according to Claim 13, wherein the patch image is made of mixed colors.